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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,646	06/25/2003	Albert Maurer	6959-01	2748
7590	01/26/2006			
Richard R. Michaud McCormick, Paulding & Huber LLP 185 Asylum Street, City Place II Hartford, CT 06103			EXAMINER WILLOUGHBY, TERRENCE RONIQUE	
			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

W.A

Office Action Summary	Application No. 10/603,646	Applicant(s) MAURER ET AL.	
	Examiner Terrence R. Willoughby	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06/26/2003</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The indicated allowability of claim 11 is withdrawn in view of the newly discovered reference(s) to Herbert (US 1,988,040). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. Claims 1-3, 9,10,12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schergen et al. (US 4,360,854) and further in view of Herbert (US 1,988,040).

With respect to Claim 1, Schergen et al. discloses the claimed method for demagnetizing objects between two coils lying opposite one another (Figure 1, 14 and 16) wherein the object is located within the region between the coils (Figure 1, 20) within an alternating field for a staying of time of a certain duration (Figure 6), and wherein the coils form a single series oscillation circuit which are supplied in a current controlled manner (Column 6, lines 8-13), but does not disclose the metal objects being previously treated in at least one pre-treatment station for demagnetizing magnetically hard locations in the object.

However, Herbert discloses a process for the treatment of metal objects being previously pre-treated for demagnetizing magnetically (page 1, column 2, lines 30-46 and page 2, lines 22-29). It would have been obvious to those skilled in the art at the time the invention was made to have modified Schergen et al. demagnetizing apparatus by providing at least one previously treated pre-treatment station for demagnetizing magnetically metal objects taught by Herbert to improve the process of treatment of

metals by rotating the substance in a strong magnetic field and gradually withdrawing it from the influence of the field or alternatively, rotating the substance in a strong magnetic field, and gradually weakening the field.

With respect to claim 2, Schergen et al. in view of Herbert discloses the claimed said method according to claim 1, however both references do not disclose the claimed said method wherein the staying time over the duration of the cycle lasts between 20 and 500 periods. However, it has been decided that where the general conditions of the claim are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentations. In re Aller, 220F. 2d 454,456, 105 USPZ 233,235 (CCPA, 1955). Furthermore, it would have been obvious to those skilled in the art at the time the invention was made to know that the duration time cycle depends on hardness and thickness of the demagnetizing object. Therefore, the duration of time it takes to demagnetize an object can be predetermined and set by the user at his or her own discretion.

With respect to Claim 3, Schergen et al. in view of Herbert discloses the claimed said method according to claim 1, wherein the two coils are grouped together into single common coil (Figure 1, 12) and wherein the alternating field is produced within the coil. The two coils (Figure 1, 14 and 16) and the demagnetizing object within the region (Figure 1, Numeral 20) form one single common coil.

With respect to claim 9, Schergen et al. discloses the claimed said device for demagnetizing objects with a demagnetization station (Fig. 12) which comprises two coils (Fig. 1, 14 and 16) which are present and which are arranged on opposite sides

of a support cradles (Figure 1, 22) lying opposite one another, wherein the two coils are coreless and are connected in a single common series oscillation circuit (Figure 1, 12) and supplied by way of a current control (Column 6, lines 8-13) for producing an alternating field, wherein the series oscillation circuit and the support cradles remains within an alternating field between the coils of the series oscillation circuit for a certain staying time (Abstract, lines 2-7). The support cradles, wheels, and suitable tracks (Figure 1, 25) that Schergen et al. discloses are adapted for supporting larger demagnetizing objects, for example, the bundle of rods (Figure 1., 20) which is not suitable for transporting on a transporting belt. It would have been obvious to those skilled in the art at the time the invention was made to have modified Schergen et al. demagnetizing apparatus to support smaller metal objects, such as ferromagnetic parts, punched parts, turned parts, springs, tubes etc. by replacing the support cradle of Schergen et al. demagnetizing apparatus with a transport belt as recited to increase the flexibility of the device by allowing a wide variety of components to be used with the device. Schergen et al. does not disclose the metal objects being previously treated in at least one pre-treatment station for demagnetizing magnetically hard locations in the object.

However, Herbert discloses a process for the treatment of metal objects being previously pre-treated for demagnetizing magnetically (page 1, lines 30-46 and page 2, lines 22-29). It would have been obvious to those skilled in the art at the time the invention was made to have modified Schergen et al. demagnetizing apparatus by providing at least one previously treated pre-treatment station for demagnetizing

magnetically metal objects taught by Herbert to improve the process of treatment of metals by rotating the substance in a strong magnetic field and gradually withdrawing it from the influence of the field or alternatively, rotating the substance in a strong magnetic field, and gradually weakening the field.

With respect to claim 10, Schergen et al. in view of Herbert discloses the claimed said device according to claim 9, wherein the two coils are grouped together into a single common coil (Scherger et al., Fig. 1, 12), wherein the alternating field is produced in the inside of the common coil. The two coils (Figure 1, 14 and 15) and the demagnetizing objects within the region (Figure 1, 20) form one single common coil.

With respect to claim 12, Schergen et al. in view of Herbert discloses the claimed said device according to claim 9, wherein the transport of the objects on the transport belt is effected in a cycled manner (Scherger et al., Abstract, lines 5-7).

With respect to claim 13, Schergen et al. in view of Herbert discloses the claimed said device according to claim 12, wherein the transport belt effected in a cycled manner is performed in a start-stop way (Scherger et al., Fig. 8 156, 177, 174).

With respect to claim 14, Schergen et al. in view of Herbert discloses the claimed said device according to claim 9, and necessarily provides the method as recited in at least claim 1.

3. Claims 4, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schergen et al. (US 4,058,763) and in view of Herbert (1,988,040) as applied to claim 2 above, and further in view of Steingroever et al. (US 4,384,313).

With respect to claim 4, Schergen et al. in view of Herbert discloses the claimed method according to claim 2, however both references do not disclose the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current by way of a control or a ramp function which is programmed in the inverter.

However, Steingroever et al. discloses the claimed method wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current (Column 1, lines 46-49) by way of a control or ramp function, which is programmed in the inverter (Column 2, lines 48-66). It would have been obvious to those skilled in the art at the time the invention was made to use an inverter taught by Steingroever et al. to control the alternating field electronically and to help improve the process of demagnetization within the cycle period of the demagnetizing apparatus of the mentioned above combination.

With respect to claim 6, Schergen et al. in view of Herbert and further view of Steingroever et al. discloses the claimed said method according to claim 4, wherein the demagnetization curve (Steingroever et al., Fig.5-6) is influenced by additional supply of the series oscillation circuit by way of feeding with rectangular impulses (Steingroever et al., Fig. 7) by the separate current control (Steingroever et al., Column 2, lines 48-66).

With respect to claim 7, Schergen et al. in view of Herbert and further view of Steingroever et al. discloses the claimed said method according to claim 4, wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current (Steingroever et. al, Column 1, lines 46-49) by way of a programmed inverter (Steingroever et al., Figure 1, Numeral 2). Schergen et al. discloses the complete demagnetization procedure between two or more coils in an oscillation circuit where current is reduced in successive steps, to a point at or near zero (Abstract, lines 2-5). Herbert discloses metal objects being demagnetized in a process of treatment gradually weakening the magnetic field to zero (page 2, lines 1-6). It would have been obvious to those skilled in the art at the time the invention was made that a complete demagnetization process occurs in the alternating field when zero current flows through the circuit resulting in a currentless, voltageless, and chargeless circuit.

With respect to claim 8, Schergen et al. in view of Herbert and further view of Steingroever et al. discloses the claimed said method according to claim 4, wherein the alternating field of the series oscillation circuit is reduced down from a nominal current to an end current by way of an inverter. The mentioned combination above discloses the complete demagnetization procedure between two or more coils in an oscillation circuit where current is reduced in successive steps, to a point at or near zero (Scherger et al., Abstract, lines 2-5).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Steingroever (US 4,058,763) discloses a demagnetizing testing

device for permanent magnets. McGreevy et al. (US 5,341,263) a cassette-shaped for demagnetizing apparatus which may be inserted in a recording and or reproducing device for demagnetizing one or more of the magnetic heads. Bosh (DE 4310893) discloses a method of non-destructively testing the surfaces of electrically conducting materials, which generates a magnetic alternating field depending on a pre-treatment of the material under test. Littwin et al. (US 4,6725,345) discloses using demagnetizing or degaussing with using magnetic tapes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrence R. Willoughby whose telephone number is 571-272-2725. The examiner can normally be reached on 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2058. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRW



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PRIMARY EXAMINER